CONFIDENTIAL

D/GC

D/GL

D/GG

28-1

25X1A9a

UNITED STATES GOVERNMENT

Memorandum

TO : Chief, Geographic Research

THRU : Chief, Cartography Division

DATE: 8 October 1963

FROM : ██████████ 25X1A9a

SUBJECT: Automated Data Processing

1. On 18 September 1963, the undersigned briefed the staff of D/GC on the elements of Automated Data Processing (ADP) and escorted the group on a tour of Machine Division (OCR/MD) and the Computer Center (operated by DD/S&T/OCS). A second briefing one week later before the same group dealt with possible applications in D/GC. A condensed version of the first two lectures was given to the staff of GRA and seven others from D/GG and D/GL. This memorandum will summarize the last session with some additions and amplifications. As before, the subject will be divided into advantages, applications and recommendations. Elements of the process will be omitted.

2. Advantages

The seven reasons given for increased use of ADP within the GRA were as follows:

   a. Superior handling of data (single entry, more accurate);
   b. Speed;
   c. More sophisticated and flexible output;
   d. Possible reduction of much professional time spent in clerical operations (assembling, record-keeping, proofing, etc.);
   e. Possible reduction of clerical staff;
   f. Elimination of much hand typesetting;
   g. Maximum use of future employees trained in these techniques. (See Attachment A as an example of contemplated high school training.)

3. Applications

   a. Project Status Reporting

   A unified system of job control and reporting was proposed for D/GC. Its main components are a new triplicate initial entry form and punched card tabulations. Complete status reports would be issued weekly and monthly and periodic summaries of completed items by number country, category or program would be readily obtainable. Under optimum

22 OCT 1963

conditions present clerical effort in job control could be reduced substantially by use of machine methods. Professional time exerted in this direction could be quartered in some branches. Attached is a copy of the suggested system (Attachment B). Such a program may have application in D/GG and D/GL.

b. Geographic Names Handling

Many detailed reference maps are published without name indexes because of the inherent clerical difficulties involved. ADP offers us an easy solution when we are preparing our type orders. There are two variations of the initial step. The first method requires the entry onto a prepared transcript sheet of the geographic name, grid reference, type style and size together with an arbitrary worksheet number. The second method begins with the use of BGN Gazetteer place-name punched cards (available in MD) to produce alphabetical and categorical sorts of a country or portion of a country. To these listings are added an arbritrary map number, grid reference, and type style and size. Next either the transcript from the first method or the annotated listing from the second are sent to MD for sorting by style and size of type and alphabetically within geographic categories. These listings are next sent to PSD for linotyping and the draftsman uses the type style and size list for setting down the map type and the alphabetical list is used directly as the index. Besides the considerable savings in professional compilation time using such a procedure, other advantages include a minimum of errors and a printed listing. This technique in amended form could be possibly used in D/GG.

c. Automated Typesetting

The purchase of a Photon machine by PSD will allow requesting units to generate their own tape to produce map and manuscript type. Much type now handset could be produced by this new device. Names already on cards are convertible directly to tape in all-capital form or indirectly via the computer to caps-and-lower-case form. PSD is investigating a card which will directly generate caps and lower case onto tape.

d. Location Registry

25X1A As suggested to ████████, this plan would envision a very small unit providing geographic location service to all government agencies. Tapes or discs of BGN gazetteers plus CIA and NSA contributions with name variants (based on the OCR/BR variant system) could be electronically scanned for geographic names, locations, categories, etc.

e. Computations

Difficult and/or time-consuming computations, such as map projections, and satellite and missile trajectory problems, can be taken to the Office of Computer Services (OCS) for solution.

f. Automated Plotting and Drafting of Maps and Charts

The purchase of an Electronic Associates, Inc. (EAI) Model 3440 graphic plotter by the Office of Special Activities (DD/S&T/OSA) has opened new horizons in cartographic applications. In theory any mappable geographic unit can be plotted in minutes using any of a wide range of available projection routines, with instantaneous scale variation from .1 to 999 times the original. Graphs based on card or taped data are also readily plotted. A further application of this device lies in automated drafting. A logical computer program working with compatible worksheets could do the linework and symbol placement needed for a fair drawing.

4. Recommendations

a. Establishment of an ADP Committee

It is recommended that a representative committee be appointed to coordinate ADP activities within GRA. The main responsibility of this group would be to develope internal ADP capability by education, consultation and coordination. The educational portion could consist of bulletins, briefings, and formal training. The group acting as a repository for ADP experience, could be consulted in project planning stages. If more than one unit of the area or units outside were involved in a project, this committee could coordinate ADP applications.

b. Machine Utilization

It is recommended that all components utilize OCR/MD for small projects for familiarization purposes. The developing ADP capability of D/GC began with initial projects of small size.

c. Clerical Training

It is recommended that GRA clerical personnel begin acquisition of key punch and Flexowriter skills soon. Increased use of ADP and the adoption of the Photon system will place demands on the weakest link of the machine process - key or tape punching. Inasmuch as we will have to supply our own card decks or tapes in any major new programs, we should have that capability when the time arrives.

d. New Developments

It is recommended that the Area stay abreast of developments in the ADP field pertinent to geographic research.
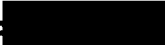
25X1A9a

Distribution
    Orig. & 1 - Addressee
            1 - D/GL
            1 - D/GG
            3 - D/GC

D/GC/RR: eml/6101

25X1A9a

-4-

Excluded from automatic
downgrading and
declassification